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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/271,614	03/17/1999	ADAM J CHEYER	SR11P018	4385

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EXAMINER
BULLOCK JR, LEWIS ALEXANDER

ART UNIT	PAPER NUMBER
2126	11

DATE MAILED: 07/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/271,614	Applicant(s) CHEYER ET AL.
	Examiner Lewis A. Bullock, Jr.	Art Unit 2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 April 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 March 1999* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

Applicant is notified that the amendment received on 4/28/03 has been entered. However, the examiner is making aware that under the voluntary revised 37 CFR 1.121 amendment practice that was announced in the Official Gazette on January 31, 2003, see http://www.uspto.gov/web/offices/com/sol/og/2003/week08/patform.html, that all claims must have identifiers, i.e. original, cancelled, etc.

Drawings

1. This application, filed under former 37 CFR 1.60, lacks formal drawings. The informal drawings filed in this application are acceptable for examination purposes. When the application is allowed, applicant will be required to submit new formal drawings. In unusual circumstances, the formal drawings from the abandoned parent application may be transferred by the grant of a petition under 37 CFR 1.182.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 22-25, 47-50, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over "An Open Agent Architecture" by COHEN.

As to claim 22, COHEN teaches a computer architecture for communication and cooperation among distributed agents (client agents / individual agents / interface agent / calendar agent / database agent / telephone agent / mail agent) comprising: a plurality of service providing agents (client agents that are able to achieve various goals or who have indicated a capability in resolving ICL expressions); at least one facilitator agent (distributed blackboard server processes) capable of receiving a service requests in the form of a base goal ("The Server is responsible both...for identifying agents that can achieve various goals...") from a client agent in an inter-agent communication language (ICL) and capable of determining sub goals necessary to accomplish the base goal ("The primary job of the Server is to decompose ICL expressions and route them to agents who have indicated a capability in resolving them."), the facilitator operable to allocate each sub-goal to at least one server agent (client agent / senior server process) capable of accomplishing the sub-goal as determined by the registry (knowledge base / indications of initial server process); and at least one agent (originating agent / distributed blackboard server process) capable of making a request directly to a server agent (target agent) for accomplishment of at least one of the sub-goals ("Communication can also take place also in a directed mode if the originating agent specifies the identity of a target agent.") (pg. 2-3, Agent Architecture, Distributed Blackboard Architecture, Operational Agents). However, COHEN does not explicitly mention that the direct request is a peer to peer communication. It is obvious to one skilled in the art that since COHEN teaches the originating agent is capable of directly communicating with a target agent (pg. 2) that the communication is peer to peer.

As to claim 47, COHEN teaches a facilitator agent (distributed blackboard server process) for coordinating cooperative task completion within a distributed computing environment comprising: a registry (blackboard / knowledge base) of capabilities of the service-providing agents (client agents that are able to achieve various goals or who have indicated a capability in resolving ICL expressions) ("The primary job of the Server is to decompose ICL expressions and route them to agents who have indicated a capability in resolving them."); and a facilitating engine (server process functionality) operable to determine a set of sub goals (list of goals) necessary to accomplish the base goal (request sent as a goal with primitives permitting distributed AND and OR parallel solving), and then allocate such sub goals to those agents capable of accomplishing the base goals as determined by the registry ("The primary job of the Server is to decompose ICL expressions and route them to agents who have indicated a capability in resolving them.") (pg. 2-3, Agent Architecture, Distributed Blackboard Architecture, Operational Agents), the facilitator further capable of initiating a direct communication of at least one sub goal goals ("Communication can also take place also in a directed mode if the originating agent specifies the identity of a target agent.") (pg. 2-3, Agent Architecture, Distributed Blackboard Architecture, Operational Agents). However, COHEN does not explicitly mention that the direct communication is a peer to peer communication. It is obvious to one skilled in the art that since COHEN teaches the originating agent is capable of directly communicating with a target agent (pg. 2) that the communication is peer to peer.

As to claim 53, COHEN teaches a computer implemented process for providing coordinated task completion within a distributed computing environment comprising the steps of: providing at least one agent registry (distributed blackboard server processes) including capabilities of service providing electronic agents (client agents that are able to achieve various goals or who have indicated a capability in resolving ICL expressions) ("The primary job of the Server is to decompose ICL expressions and route them to agents who have indicated a capability in resolving them."); interpreting (solving) a service request in the form of a base goal, the service request being in an ICL ("The primary job of the Server is to decompose ICL expressions and route them to agents who have indicated a capability in resolving them."); determining a plurality of sub goals (list of goals / request) necessary to accomplish the base goal (via interpreting request with distributed AND and OR parallel solving primitives); selecting from the registry at least one service providing agent capable of completing the sub goals ("The Server is responsible...for identifying agents that can achieve various goals, and for scheduling and maintaining the flow of communication during distributed computation.") ; delegating at least one sub goal as a direct service request directly from a service requesting agent (originating agent / one distributed blackboard server process) to a service providing agent (target agent / another distributed blackboard server process) ("Communication can also take place also in a directed mode if the originating agent specifies the identity of a target agent."); and delegating any remaining sub goals as service request in the ICL to the selected agents (client agents) capable of

completing the remaining sub goals ("When attempting to solve a goal, an agent may find itself lacking certain necessary information. The agent can either post a request of a specific agent for the information or it may post a general request on the blackboard.") (pg. 2-3, Agent Architecture, Distributed Blackboard Architecture, Operational Agents). However, COHEN does not explicitly mention that the direct request is a peer to peer communication. It is obvious to one skilled in the art that since COHEN teaches the originating agent is capable of directly communicating with a target agent (pg. 2) that the communication is peer to peer.

As to claim 23, It would be obvious that the since only the server process requires the communication to be in an ICL format that direct communication from an originating agent to a target agent is in any language.

As to claims 24 and 25, COHEN teaches that when a blackboard server process communicates with a senior or responding server process, request and responses are sent (pg. 2, Distributed Blackboard Architecture). Therefore, since the originator knowledge source can directly communicate with the responding knowledge source to send request and receive responses that the communication is bi-directional and distributed.

As to claims 48-50, refer to claims 23-25 for rejection.

4. Claims 1-5, 14-19, 26, 36-44, 51, 54, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over "An Open Agent Architecture" by COHEN in view of HODJAT (US 6,144,989).

As to claim 1, COHEN teaches a computer architecture for communication and cooperation among distributed electronic agents (client agents / individual agents / interface agent / calendar agent / database agent / telephone agent / mail agent) comprising: a plurality of service-providing agents (client agents that are able to achieve various goals or who have indicated a capability in resolving ICL expressions); a distributed facilitator agent (distributed blackboard server processes) capable of bi-directional communications with the plurality of service-providing agents ("The Server is responsible both for....maintaining the flow of communication during distributed computation.), the facilitator agent including: an agent registry (blackboard / knowledge base) that declares capabilities for each of the service providing agents active within the distributed computing environment ("The primary job of the Server is to decompose ICL expressions and route them to agents who have indicated a capability in resolving them."); and a facilitating engine (server process functionality) operable to interpret a service request as a base goal, and further operable to coordinate a suitable delegation of sub-goal requests to best complete the requested service request ("The primary job of the Server is to decompose ICL expressions and route them to agents who have indicated a capability in resolving them.") (pg. 2-3, Agent Architecture, Distributed Blackboard Architecture, Operational Agents). However, COHEN does not explicitly mention that the distributed facilitator agent is functionally distributed across at least two

computer processes or the engine operable for generating a goal satisfaction plan that includes coordination strategies or reasoning having rules and learning algorithms. COHEN does teach that the server may be a client in a hierarchy of servers and that the blackboard systems themselves can be structured in a hierarchy distributed over a network (pg. 2, Distributed Blackboard Architecture). Therefore, it would be obvious that each server of the hierarchy is its own process since they can be individually operated and manipulate one another in the same system or over a network.

HODJAT teaches an agent architecture for communicating and cooperation among distributed electronic agents (input agents / input regulator agent / TV agent / VCR agent) (col. 11, line 50 – col. 13, line 59), wherein a facilitator agent (input regulator agent) is operable for generating a goal satisfaction plan (interpretation policy) associated with the base goal (user-input request) wherein the goal satisfaction plan includes: a suitable delegation of sub-goal requests (queries) to best complete the requested service request (initial query) by using reasoning that includes domain-specific reasoning and application-specific reasoning (registered services offered by the registered domains / VCR agents / TV agents) comprising rules and learning algorithms (via storing new interpretation policies by using the "IS-THIS-YOURS" performative with returned response) (col. 13, line 60 – col. 17, line 36). Therefore, it would be obvious to combine the teachings of COHEN with the teachings of HODJAT in order to facilitate the adaptive learning of agent responsibilities in order to distribute agent messages (col. 4, lines 51- col. 5, line 5).

As to claim 26, refer to claim 47 for rejection. However, claim 26 further details that the service request is formed according to an Inter-agent Communication Language, that the facilitator agent is a distributed facilitator agent functionally distributed across at least two computer, or the engine operable for generating a goal satisfaction plan that includes coordination strategies or reasoning having rules and learning algorithms. COHEN teaches the service request is formed according to an ICL ("The primary job of the Server is to decompose ICL expressions and route them to agents who have indicated a capability in resolving them.") and that the server may be a client in a hierarchy of servers and that the blackboard systems themselves can be structured in a hierarchy distributed over a network (pg. 2, Distributed Blackboard Architecture). Therefore it would be obvious that each server of the hierarchy is its own process since they can be individually operated and manipulate one another in the same system or over a network.

HODJAT teaches an agent architecture for communicating and cooperation among distributed electronic agents (input agents / input regulator agent / TV agent / VCR agent) (col. 11, line 50 – col. 13, line 59), wherein a facilitator agent (input regulator agent) is operable for generating a goal satisfaction plan (interpretation policy) associated with the compound goal (user-input request) wherein the goal satisfaction plan includes: a suitable delegation of sub-goal requests (queries) to best complete the requested service request (initial query) by using reasoning that includes domain-specific reasoning and application-specific reasoning (registered services offered by the registered domains / VCR agents / TV agents) comprising rules and learning algorithms

(via storing new interpretation policies by using the "IS-THIS-YOURS" performative with returned response) (col. 13, line 60 – col. 17, line 36). Refer to claim 1 for the motivation to combine.

As to claim 51, refer to claim 53 for rejection. However, claim 51 further details the step of determining and implementing a goal satisfaction plan that includes coordination strategies or reasoning having rules and learning algorithms.

HODJAT teaches an agent architecture for communicating and cooperation among distributed electronic agents (input agents / input regulator agent / TV agent / VCR agent) (col. 11, line 50 – col. 13, line 59), wherein a facilitator agent (input regulator agent) is operable for determining and implementing a goal satisfaction plan (interpretation policy) associated with the base goal (user-input request) wherein the goal satisfaction plan includes: a suitable delegation of sub-goal requests (queries) to best complete the requested service request (initial query) by using reasoning that includes domain-specific reasoning and application-specific reasoning (registered services offered by the registered domains / VCR agents / TV agents) comprising rules and learning algorithms (via storing new interpretation policies by using the "IS-THIS-YOURS" performative with returned response) (col. 13, line 60 – col. 17, line 36). Refer to claim 1 for the motivation to combine.

As to claims 54, COHEN teaches a computer-implemented method for providing cooperative task completion within a distributed computing environment supporting a

dynamically expandable Inter-agent Communication Language (ICL) comprising the steps of: providing a plurality of agent registries (blackboard / knowledge base of server processes) each declaring a set of functional capabilities for one or more of the electronic agents (client agents that are able to achieve various goals or who have indicated a capability in resolving ICL expressions); receiving a service request adhering to the ICL ("The primary job of the Server is to decompose ICL expressions and route them to agents who have indicated a capability in resolving them."); and determining one or more sub-goal requests (list of goals) in order to perform the service request (via distributed AND and OR-parallel solving primitives) (pg. 2-3, Agent Architecture, Distributed Blackboard Architecture, Operational Agents). It would be obvious that since the server processes are stored in a hierarchy and if an initial server process has no capable client agent that subsequent senior server process blackboards are checked which maintain the knowledge base of all its subsidiaries, that the blackboards are synchronized. It would also be obvious each server of the hierarchy is its own process since they can be individually operated and manipulate one another in the same system or over a network. However, COHEN does not the determining and implementing a goal satisfaction plan that includes coordination strategies or reasoning having rules and learning algorithms.

HODJAT teaches an agent architecture for communicating and cooperation among distributed electronic agents (input agents / input regulator agent / TV agent / VCR agent) (col. 11, line 50 – col. 13, line 59), wherein a facilitator agent (input regulator agent) is operable for determining and implementing a goal satisfaction plan

(interpretation policy) associated with the base goal (user-input request) wherein the goal satisfaction plan includes: a suitable delegation of sub-goal requests (queries) to best complete the requested service request (initial query) by using reasoning that includes domain-specific reasoning and application-specific reasoning (registered services offered by the registered domains / VCR agents / TV agents) comprising rules and learning algorithms (via storing new interpretation policies by using the "IS-THIS-YOURS" performative with returned response) (col. 13, line 60 – col. 17, line 36). Refer to claim 1 for the motivation to combine.

As to claims 2-4, COHEN teaches that the distributed facilitator agent (distributed blackboard server process) includes a plurality of facilitator agents (server processes) being bi-directionally coupled with one another (hierarchy structured) and operable upon separate computer systems ("...blackboard systems themselves can be structured in a hierarchy which could be distributed over a network.") (pg. 2-3, Agent Architecture, Distributed Blackboard Architecture, Operational Agents). It would be obvious that each server of the hierarchy is its own process since they can be individually operated and manipulate one another in the same system or over a network.

As to claims 5, COHEN teaches the computer architecture operates as an inter-agent communication language enabling agents to perform queries of other agents, exchange information with other agents, set triggers within other agents, allowing ICL

supporting compound goal expressions within a single request (pg. 2, Agent Architecture / pg. 3-4, Communication Language).

As to claims 14-19, COHEN teaches the distributed facilitator agent is formed in a hierarchical topology including a top level facilitator agent (senior server process) and at least one other facilitator agent (subsidiary) registered within the top level facilitator agent wherein the facilitator agents execute on different computer systems (pg. 2, Distributed Blackboard Architecture). It would be obvious that since the server processes are distributed across a network and each store the capabilities of client agents that the client agents of a server process are those agents local to the server process, thus specific to that server process.

As to claims 36-44, refer to claims 2-4, and 14-19 above.

As to claim 55, COHEN teaches the distributed facilitator agent is formed in a hierarchical topology including a top level facilitator agent (senior server process) and at least one other facilitator agent (subsidiary) registered within the top level facilitator agent wherein the facilitator agents execute on different computer systems (pg. 2, Distributed Blackboard Architecture). It would be obvious that since the server processes are distributed across a network and each store the capabilities of client agents or subsidiary server processes, that the server processes are separate and are replicated from the subsidiary server process to the senior server process.

5. Claims 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over COHEN in view of HODJAT as applied to claim 1 above, and further in view of "Development Tools for the Open Agent Architecture" by MARTIN.

As to claims 6-13, COHEN and HODJAT substantially discloses the invention. However, neither reference teach the ICL limitations. MARTIN teaches the ICL is computer platform independent, independent of the agents computer programming language ("...the interface language shared by all agents, no matter what machine they are running on or what computer language they are programmed in."), supports task completion constraints (triggers), supports response time constraints (via triggers / control stratiegies), supports advisory suggestions (control strategies), and defines capabilities or solvables in ICL (pg. 5, The Open Agent Architecture / The Interagent Communication Language). Therefore, it would be obvious to combine the teachings of COHEN with the teachings of HODJAT and MARTIN in order to facilitate unification and backtracking during interactions among agents (pg. 5, The Interagent Communication Language).

6. Claims 20, 21, 27-35, 45, 46, 52, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over COHEN in view of HODJAT as applied to claim 1 above, and further in view of "Information Brokering in an Agent Architecture" by MARTIN.

As to claims 20 and 21, COHEN and HODJAT substantially discloses the invention. However, neither reference teach the planning component. MARTIN

teaches the facilitator agent includes a planning component (broker) and an execution component (facilitator) (fig. 1). It would be obvious that the two components are separate on different processes since they perform separate functionality and work in close cooperation with each other as disclosed in figure 1. It would be obvious that since COHEN teaches that the server process, which functions similar to a facilitator, is maintained in a hierarchical topology and each has a registry of the client agents it stores the capabilities of, that each maintains a broker as disclosed by MARTIN. Therefore, it would be obvious to combine the teachings of COHEN with the teachings of HODJAT and MARTIN in order to provide transparent access to a collection of information sources (pg. 8, The Broker agent).

As to claims 27-35, COHEN teaches that the registry of the agent (server's knowledge base) includes data and task declarations, triggers, and characteristics of agents (capabilities) (pg. 2, "The Server is responsible....with the blackboard acting as a broker."; Individual agents can respond..."when mail arrives...").). It would be obvious that it stores the name of the agent and its address since it must know which agent to invoke. However, neither COHEN nor HODJAT teach the modifying the plan during execution.

MARTIN teaches the capability of modifying the goal satisfaction plan (query execution plan) during execution, initiated by events such as new agent declarations within the agent registry (broker_register_source), decisions made by remote agents (to register / unregister / firing of a trigger by agent), and information provided to the

facilitator by remote agents (information received from agent to broker in order to fire a trigger from broker) (pg. 11-12, Query Processing, "When the Broker receives a query, it takes the following steps to produce a query execution plan...is solved remotely, by the appropriate information source.") / pg. 12, Persistent Queries, "When an information source is added, removed, or updated, the Broker checks the persistent queries to see if their results may have been affected by the change.). COHEN teaches that triggers make reference to blackboard messages, blackboard data, or agent-specific test conditions. Refer to claim 20 for the motivation to combine.

As to claims 45 and 46, refer to claims 20 and 21 for rejection.

As to claim 52, COHEN and HODJAT substantially discloses the invention. However, neither reference teach the interpreting is separate from the synchronized agent registries. MARTIN teaches that agents register with a facilitator its capabilities (pg. 6, The Open Agent Architecture) and that Broker interprets requests into the appropriate sub-queries to the available source agents (pg. 7, System Architecture). It would be obvious that since the Broker is separate from the facilitator (fig. 1), that they are separate processes. Refer to claim 6 for the motivation to combine.

As to claim 56, COHEN and HODJAT substantially discloses the invention. However, neither reference teach the interpreting the plan is separate from the synchronized agent registries. MARTIN teaches that agents register with a facilitator its

capabilities (pg. 6, The Open Agent Architecture) and that Broker interprets requests into the appropriate sub-queries to the available source agents (pg. 7, System Architecture). It would be obvious that since the Broker is separate from the facilitator (fig. 1), that they are separate processes. Refer to claim 6 for the motivation to combine.

Response to Arguments

7. Applicant's arguments with respect to claims 1-21, 26-46, 51, 52, and 54-56 have been considered but are moot in view of the new ground(s) of rejection.

8. Applicant's arguments filed 4/28/03 have been fully considered but they are not persuasive. In regards to claims 22-25, 47-50, and 53, Applicant argues that Cohen teaches away from "at least one agent capable of making a request directly to a server agent as a peer to peer communication. The examiner disagrees. Applicant supports the argument by stating that the blackboard communicates request from client agents to the target agent. Based on this admission alone, the claim limitation is met. The claims recite that at least one agent is capable of making a request directly to a server agent. In dependent claims 25 is states that the agent capable of this is the facilitator agent. Therefore the cited text in COHEN and as described by Applicant in the response, of a client agent in a directed mode type of communication with a server agent through a backboard adequately meets the claim limitations such that the blackboard agent or facilitator agent is capable of directly communicating with the target agent. Therefore, the rejection is maintained as indicated above.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (703) 305-0439. The examiner can normally be reached on Monday-Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on (703) 305-8498. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0286.

lab
July 10, 2003

JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100